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EXAMINER

KRUER, K

ART UNIT	PAPER NUMBER
1773	15

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/855,905	Yamanaka, Koyama, And Ueda
Examiner	**Group Art Unit**
Kevin Kruer	1773

☒ Responsive to communication(s) filed on *Sep 17, 1999* .

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-20 and 27* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-20 and 27* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "rugby ball" is vague in indefinte because neither the specification nor the prior art defines the term clearly and consciously.

3. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "island" is vague and indefinite because neither the specification nor the prior art defines the term clearly and consciously.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd.

App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 26 recites the broad recitation "long particles," and the claim also recites "island" which seems to be the narrower statement of the range/limitation.

5. Claim 27 is objected to because parenthetical references are not allowed in claim language.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-20 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. (Pat. No. 4,318,950) and further in view of European Patent 0 613 919 A1 (aka Ueda). Takashi et al. teaches that it is well known in the art to make synthetic papers comprising oriented thermoplastic laminates. Furthermore, inorganic fillers are often added to the thermoplastic resin prior to stretching in order to roughen the surface and render the film receptive to pencil, pen, and crayon markings (col 1, lines 19-46). It is also well known in the art that antistatic properties are desired in synthetic paper products. However, Takashi does not teach the polyolefin composition claimed by the applicant. However, Ueda teaches the composition of the claimed polyolefin sheet. Thus, it would have been obvious to one skilled in the synthetic paper art to utilize the composition taught in Ueda because such a composition would improve the antistatic properties of the paper product.

Takashi teaches that suitable inorganic fillers which may be added to the polypropylene composition include calcium carbonate, silica, talc, titanium oxide, and clay (col 7, lines 1-4). The composition may contain from 0.5%-65% by weight of a fine inorganic filler (col 7, lines 8-10). The polypropylene composition containing inorganic filler is uniaxially oriented at least 2.5 times the original dimension, and possibly as high as 16 times the original dimension (col 5, lines 8-17). It is well known in the art to orient the film at a temperature lower than the melting point of the polypropylene resin The surface of the stretched resin film may be treated with corona discharge treatment at a voltage of 3,000 to 30,000 volts and a current of 0.5 to 5 amperes (col 4, lines 41-51). The polypropylene composition may be laminated to a biaxially oriented backing film layer (abstract). The synthetic paper may have a total thickness of 30-140um, with the sheet comprising the claimed polypropylene composition having a thickness of 10-100um (Table IV, col 14). Takashi also teaches that the desired void content is between 10-65% (claim 1; equation is in Table VII, col 17).

Ueda teaches an antistatic polypropylene composition (page 9, lines 34-42) comprising:

component A: a polyolefin resin (55-95% by weight of the total composition)

component B: a polyetheresteramide (3-40% by weight)

component C: a polyamide resin (1-20% by weight), and

component D: a compatilizer (0.2-20%)

The polyetheresteramide is derived from a polyamide oligomer having a number average molecular weight of 300 to 3,000 and which contains carboxyl groups at each end and an alkylene oxide adduct of bisphenol having a number average molecular weight of from 300 to 5,000

(claim 1). For example, the polyetheresteramide can be synthesized from an ε-caprolactam, an ethylene oxide adduct of bisphenol A, and adipic acid (page 12, example 1). Furthermore, 12-aminodecanoic acid may be used as the polyamide oligomer in place of the ε-caprolactam (page 3, lines 21-29). Ueda teaches that polyetheresteramides having aromatic rings as component B have a reduced viscosity of from 0.5 to 4.0 in 0.5 wt% m-cresol solution at 25°C (page 4, lines 21-24).

Ueda teaches that the polyamide of component C is selected from the group consisting of nylon 66, nylon 69, nylon 601, nylon 612, nylon 6, nylon 11, nylon 12, and nylon 46 (page 5, lines 21-22). Preferably the polyamide resin has a reduced viscosity of from 0.8 to 5 in 97% sulfuric acid (concentration 1g/100ml) at 30°C (page 5, lines 22-25). The polyamide increases the surface orientation of the antistatic agent (col 6, lines 38-47).

Preferable compatilizers when polyolefin resins are used as the thermoplastic resins are (a) an acid modified low molecular weight polyolefin having a number average molecular weight of from 800-25, 00 and an acid number of from 5-150, (b) a hydroxy modified low molecular weight polyolefin having a number average molecular weight of from 800 to 25,000 and a hydroxy value of from 5 to 150, and c) an ester modified low molecular weight polyolefin obtained by partly or wholly esterifying an acid modified low molecular weight polyolefin with a polyoxyalkylene compound and having a number average molecular weight of from 1,000-28,000 (page 7, lines 21-29). Such a compatilizer may be obtained by reacting a low molecular weight polyolefin having a number average molecular weight from 700 to 20,000 with an unsaturated acid selected from methacrylic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic

anhydride, and citraconic anhydride (page 7, lines 30-39). The resulting product can be reacted further a) with an aliphatic amine selected from monomethanolamine, monoisopropanolamine, diethanolamine, and diisopropanolamine (page 7, lines 48-52), or b) by esterifying part or all of the carboxylic acid moieties of the modified low molecular weight polyolefin with a hydroxylated polyoxylalkylene compound (page 7, line 53 - page 8, line 9).

Response to Arguments

8. Applicant's arguments filed September 24, 1999, have been fully considered but they are not persuasive. Furthermore, Applicant's declaration has been fully considered. The examiner acknowledges that low molecular weight antistatic agents leach out when the composition is rinsed with water. The examiner also acknowledges that low concentrations of low molecular weight antistatic agents are not sufficient for providing the synthetic paper with the desired antistatic properties. However, the examiner points out that Ueda shows that low molecular weight antistatic agents have a tendency to leach out when the composition is rinsed in water. Furthermore, one of ordinary skill in the art would suspect that the antistatic effect observed would be directly proportional to the amount of antistatic agent utilized. Thus, Applicant's declaration is not sufficient for overcoming the applied rejection.

Applicant argues that the use of a high molecular weight antistatic agent makes it possible to prevent the disadvantage of using prior art low molecular weight permanent antistatic agents. However, the courts have held that if an applicant identifies another benefit or utility of a composition taught in the prior art, the new found benefit or utility does not distinguish the claimed material from a prior art reference which teaches the same material. In the present

situation, Ueda teaches the same composition as Applicant is claiming. Therefore, even if the prior art did not acknowledge certain benefits of the composition, the recognition of such benefits would not make the composition patentably distinct over Ueda.

Applicant further argues that the high molecular weight antistatic agent does not dissolve in water, as do traditional low molecular weight anti-static agents. However, Ueda recognizes this benefit of the claimed composition (see the examples and Tables). Thus, Applicant arguments are not persuasive.

Applicant further argues that Ueda neither suggests that composition can be oriented nor disclose evaluation of offset printability of synthetic paper made from such antistatic effect-providing olefin composition. The examiner acknowledges that Ueda did not teach the orientation of the composition, and relied upon the teachings of the primary reference to overcome the deficiency. Applicant also hints that Ueda does not teach the use of filler with the composition. However, Ueda does teach that the composition may be used with filler (col 12, lines 11+). Furthermore, the examiner would like to point out that the primary reference taught the method of making a paper sheet comprising a polypropylene composition and filler. Applicant argues that the stretching of the claimed composition results in an unexpected decrease in surface resistivity. The examiner, however, takes the position that the prior art teaches that the surface resistivity of a polypropylene sheet decreases when it is oriented (see col 10, lines 27-32, Pat. No. 5,385,777). The prior art suggest that by stretching polyproplylene, pores are created, which, in turn, reduces the surface resistivity of the film. Thus, Applicant's arguments are not persuasive.

Applicant also argues that Takashi teaches the use of a small amount of low molecular weight antistatic agent. However, the examiner would like to point out that Ueda was relied upon to teach the amount of an antistatic agent utilized in the composition. Thus, Applicant's argument, and showing, is not persuasive.

Furthermore, Ueda teaches that, by incorporating polyamide into the composition, the surface orientation of the antistatic agent is increased. Thus, the examiner takes the position that the surface orientation of the antistatic agent results from the addition of the polyamide, not the orientation and oxidation of the surface. Furthermore, Ueda teaches that the polyamide has a higher melting point than the polypropylene matrix (col 6, lines 38+). Prior art teaches that when a higher melting point resin is incorporated into the matrix of a lower melting point resin, and the matrix resin is oriented at a temperature higher than the softening point but lower than the melting point of the other resin, the resulting matrix contains oriented particles. Thus, one of ordinary skill in the art would anticipate the other components of the composition to exist as oriented particles.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Toyoda (Pat. No. 3,765,999), Inoue et al. (Pat. No. 5,489,471), and Takashi et al. (Pat No. 4,075,050) teach synthetic paper laminates. Ohkawachi et. Al. (Pat. No. 5,677,005) teaches that synthetic paper is usually obtained by stretching the film at a temperature lower than the melting point of the polypropylene. Ueda et al. (Pat. No. 5,652,326) teaches the antistatic composition comprising a polyetheresteramide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R. Kruer whose telephone number is (703) 305-0025. The examiner can normally be reached on Monday-Friday from 7:30a.m. to 4:30p.m.

Kevin Kruer
Patent Examiner

Paul Thibodeau
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